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The effects of small-scale fluctuations in the oceanic thermodynamic field on bottom reverberation are simulated for monostatic source/receiver geometries. Fluctuations in the near-source environment may lead to large changes in the vertical arrival structure at the water-sediment interface. The changes in vertical arrival structure lead to changes in observed reverberation time series. Using models based on observations of oceanic fine temperature structure, a series of upper ocean sound-speed profiles is derived, the resulting sound-speed fields are then used to derive the reverberation statistics.

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